

Product Range



ROUND STRANDED COPPER CABLE

Electrolytic Copper / Oxygen Free Copper
Conforms to DIN 46438 Standards

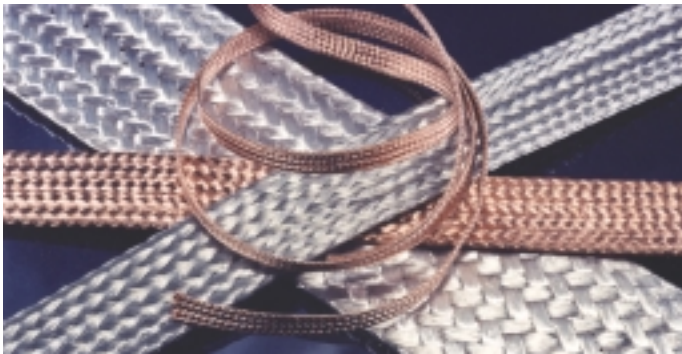
Finish: Bare Copper / Tinned / Silver-plated



ROUND BRAID / ROUND STRANDED CABLE WITH OVERALL BRAID

Electrolytic Copper / Oxygen Free Copper
Stranded cable conforms to DIN 46440 Standards

Finish: Bare Copper / Tinned / Silver-plated



FLAT WOVEN CABLE / FLAT BRAID

Electrolytic Copper / Oxygen Free Copper
Conforms to DIN 46443 and DIN 46444 Standards

Finish: Bare Copper / Tinned / Silver-plated



SQUARE BRAIDS

Electrolytic Copper / Oxygen Free Copper

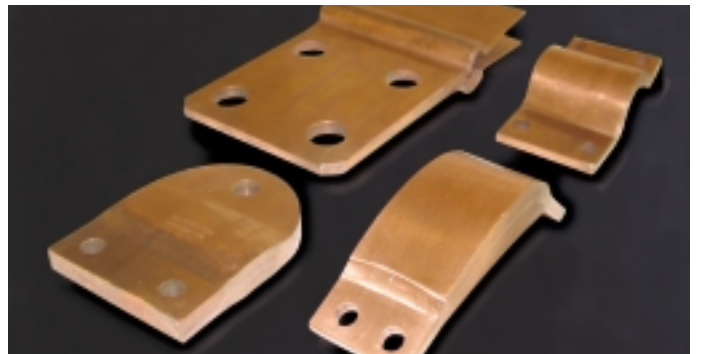
Finish: Bare Copper / Tinned / Silver-plated



COPPER FLEXIBLE CONNECTORS

Round stranded copper connectors
Flat braided copper connectors

Manufactured to customer specific requirements



COPPER / ALUMINIUM LAMINATED CONNECTIONS

Substitute for solid busbars, used as flexible expansion joints.

Manufactured to customer specific requirements

Product Range and Tolerances

S/N TYPE	SIZE OF CABLE Dia/Dimensions	NOMINAL AREA mm ²	CURRENT RATING Amps
1. ROUND STRANDED Copper Cable	OUTER DIAMETER 0.4 - 44mm	0.1 - 600mm ²	5 - 1250 Amps
2. ROUND STRANDED Copper Cable with Overall Braid	0.8 - 19mm	0.35 - 120mm ²	10 - 420 Amps
3. CIRCULAR/SQUARE Braid	0.7 - 7.9mm	0.2 - 25mm ²	7 - 150 Amps
4. ROUND Braid	1.0 - 30mm	0.5 - 300mm ²	12 - 780 Amps
5. FLAT Braid	W = 13.0 - 41mm T = 1.3 - 4.1mm	0.25 - 240mm ²	9 - 670 Amps
6. MULTIPLE CABLE FLAT Braid	W = 13.0 - 41mm T = 1.3 - 4.1mm	6.4 - 60mm ²	60 - 280 Amps
7. MULTIPLE CABLE FLAT Woven	W = 6 - 150mm T = 1.6 - 12mm	4.0 - 600mm ²	40 - 1250 Amps
8. BUSBAR Assy/ BUSDUCT Connectors	W = 10 - 90mm T = 3.0 - 12mm	10.0 - 480mm ²	55 - 780 Amps

Tolerance on Single Wire Dia. with Flexibility Rating

SWG	WIRE SIZE mm	TOLERANCE mm	NATURE OF FLEXIBILITY
47	0.05	±0.003	Super Flexible
45	0.071	±0.003	Highly Flexible
42	0.1	±0.004	Extra Flexible
40	0.122	±0.004	Extra Flexible
38	0.15	±0.006	Flexible
36	0.193	±0.006	Flexible
-	0.2	±0.006	Semi-Flexible
-	0.25	±0.008	Semi-Flexible
-	0.3	±0.008	Semi-Flexible

Tolerance on Copper Flexibility

NOMINAL AREA mm ²	0 - 0.5	0.75 - 2.0	2.5 - 16.0	25.0 - 50.0	95.0 - 600.0
1. Wire as per flexible	±2%	±2%	±2%	±2%	±2%
2. Flexible Diameter	±0.10	±0.15	±0.20	±0.50	±1.5
3. Weight/Mtrs	±12%	±12%	±12%	±8%	±6%
4. Flat/Square Braid	Width / Thickness: ±5% - ±10%				

Permissible Load Ratings of Conductors

NOMINAL CROSS SECTION mm ²	MAXIMUM PERMISSIBLE LOAD Approx. Amps	NOMINAL CROSS SECTION mm ²	MAXIMUM PERMISSIBLE LOAD Approx. Amps
0.1	5	35	195
0.14	6	50	250
0.2	7	70	300
0.25	9	95	360
0.35	10	120	420
0.5	12.5	150	480
0.75	15	185	570
1	18	240	670
1.5	21	300	780
2.5	30	400	950
4	40	500	1100
5.25	44	625	1300
6	55	800	1500
8	70	1000	1800
10	85	1500	2200
16	120	2000	2400
25	150	3000	3000

NOTE: Above chart showing cross section area (mm²) to Ampere (A) permissible load approx. is calculated at a room temperature of 35°C and a maximum permissible temperature of the conductor of 70°C

FLEXIBLE COPPER & ALUMINIUM CONNECTIONS

Round Stranded Cables (Plain/Silver Plated/Tin Coated) ETP / EC Grade

NOMINAL CROSS SECTION mm ²	OUTER DIAMETER Approx mm	Total No. of Wires Total $\pm 2\%$		
		0.05 ± 0.004 mm	0.07 ± 0.004 mm	0.12 ± 0.004 mm
0.1	0.4	51	–	–
0.14	0.5	72	–	–
0.2	0.6	105	–	–
0.25	0.7	130	–	–
0.35	0.8	180	–	–
0.5	1	266	133	–
0.75	1.2	392	196	–
1	1.5	525	266	–
1.5	1.9	777	385	133
2	2.2	1050	525	182
2.5	2.4	1281	651	224
3	2.7	1533	798	266
4	3.1	2058	1036	357
5.25	3.5	2688	1372	469
6	4	3066	1575	546
8	4.3	4116	2058	714
10	4.9	5145	2562	903
12	5.3	6125	3108	1071
16	6.3	8183	4116	1428
25	7.8	12789	6468	2254
35	9.4	–	9114	3136
50	10.8	–	12985	4459
70	12.8	–	18179	6223
95	16.3	–	24696	8428
120	18.6	–	31164	10633
150	20.5	–	39004	13279
185	22.5	–	–	16366
240	27	–	–	21266
300	30	–	–	26558
400	35	–	–	35378
500	40	–	–	44247
600	44	–	–	53067

NOTE: Specials can be manufactured to customer specifications.
Single wire stranding can be manufactured to customer specs.

FLEXIBLE COPPER & ALUMINIUM CONNECTIONS

Round Stranded Cables with Overall Braid (Plain/Silver Plated/Tin Coated) ETP / EC Grade

NOMINAL CROSS SECTION mm ²	EFFECTIVE CROSS SECTION mm ²	OUTER DIAMETER Approx mm	Total No. of Wires Total $\pm 2\%$			BRAID	
			0.05 ± 0.004 mm	0.07 ± 0.004 mm	0.12 ± 0.004 mm	Wire Dia mm	No. of Wires $\pm 2\%$
0.35	0.35	0.8	51	27	–	–	32
0.5	0.51	1.1	130	70	–	–	32
0.75	0.77	1.4	266	133	–	–	32
1	1.02	1.5	266	133	–	–	64
1.5	1.53	1.9	525	266	91	–	64
2.5	3.08	2.9	1281	651	224	–	64
3.75	3.91	3.1	1533	798	266	–	96
4	4.6	3.5	2058	1036	357	–	64
5.25	5.36	3.8	2058	1036	357	0.1	160
6	6.99	4.4	3066	1575	546	± 0.004	96
8	8.9	4.7	4116	2058	714	–	96
10	11.2	5.3	5145	2562	903	–	128
12	12	5.4	5145	2562	903	–	240
16	17.8	6.7	8183	4116	1428	–	192
25	26.9	8.2	8183	6468	2254	–	192
32	37.3	9.8	–	9114	3136	–	240
50	53.6	11.2	–	12985	4459	–	360
70	73.3	13.5	–	18179	6223	–	360
95	98.7	16.7	–	24696	8428	–	360
120	124	19	–	31164	10633	–	360

NOTE: Specials can be manufactured to customer specifications.
Single wire stranding can be manufactured to customer specs.

Round Circular Braids (Plain/Silver Plated/Tin Coated) ETP / EC Grade

NOMINAL CROSS SECTION mm ²	OUTER DIAMETER Approx mm ²	Construction		
		0.05 ±0.004 mm	0.07 ±0.004 mm	0.12 ±0.004 mm
0.2	0.7	8 x 13	8 x 7	–
0.25	0.8	8 x 16	8 x 9	–
0.35	0.95	8 x 23	8 x 12	–
0.5	1.1	8 x 32	8 x 17	8 x 6
0.75	1.35	8 x 48	8 x 25	8 x 9
1	1.6	8 x 64	8 x 33	8 x 11
1.5	1.9	8 x 96	12 x 33	8 x 17
2	2.2	12 x 86	12 x 44	8 x 23
2.5	2.4	12 x 107	12 x 54	8 x 28
3	2.7	12 x 128	12 x 65	8 x 34
4	3.1	12 x 170	12 x 86	8 x 45
5	3.5	24 x 107	12 x 108	12 x 37
6	3.8	24 x 128	12 x 130	12 x 45
8	4.5	24 x 170	12 x 174	12 x 59
10	5	24 x 213	12 x 217	12 x 74
12	5.5	24 x 256	12 x 260	12 x 89
16	6.3	24 x 341	24 x 174	24 x 59
20	7.1	32 x 319	24 x 217	24 x 74
25	7.9	32 x 399	24 x 271	24 x 93

NOTE: Specials can be manufactured to customer specifications.
Single wire stranding can be manufactured to customer specs.

FLEXIBLE COPPER & ALUMINIUM CONNECTIONS

Flat Braids - Braided Tape (Plain/Silver Plated/Tin Coated) ETC / EC Grade

NOMINAL CROSS SECTION mm ²	DIMENSIONS WIDTH 5% and THICKNESS mm ²	Construction		
		0.05 ±0.004 mm	0.07 ±0.004 mm	0.12 ±0.004 mm
0.25	1.6 x 0.2	12 x 11	12 x 6	–
0.5	2.5 x 0.4	12 x 22	12 x 11	12 x 4
0.75	2.7 x 0.5	16 x 24	12 x 17	12 x 6
1	3.2 x 0.7	16 x 32	16 x 17	12 x 8
1.5	4 x 0.8	16 x 48	16 x 25	12 x 11
2	5 x 0.8	16 x 64	16 x 33	12 x 15
2.5	5.8 x 0.8	24 x 54	24 x 27	16 x 14
3	7.5 x 0.9	24 x 64	24 x 33	16 x 17
4	8.2 x 1	24 x 85	24 x 43	16 x 23
5.25	9.8 x 1.2	24 x 112	24 x 58	16 x 29
6	10 x 1.3	24 x 128	24 x 66	16 x 34
8	12.3 x 1.5	24 x 170	24 x 88	24 x 30
10	14 x 1.5	32 x 160	24 x 109	24 x 37
16	17.5 x 2	32 x 256	24 x 174	24 x 59
25	22 x 2.5	32 x 399	32 x 203	24 x 93
35	30 x 2.5	48 x 372	32 x 285	24 x 120
50	33 x 3.2	48 x 532	48 x 271	24 x 185
70	45 x 3.5	48 x 744	48 x 380	24 x 258
95	50 x 4	48 x 1110	48 x 515	32 x 263
120	60 x 4	48 x 1276	48 x 650	32 x 332
140	60 x 4.5	–	48 x 758	32 x 387
150	65 x 5	–	48 x 810	48 x 277
168	70 x 5	–	48 x 910	48 x 310
185	75 x 5	–	48 x 1002	48 x 341
240	80 x 6.5	–	48 x 1300	48 x 443

NOTE: Specials can be manufactured to customer specifications.
Single wire stranding can be manufactured to customer specs.

Square Braids (Plain/Silver Plated/Tin Coated) ETP / EC Grade

NOMINAL CROSS SECTION mm ²	LENGTH OF SIDE (EDGE) mm	Construction		
		0.05 ±0.004 mm	0.07 ±0.004 mm	0.12 ±0.004 mm
1.5	1.7	8 x 96	8 x 49	–
2	2	8 x 128	8 x 66	–
2.5	2.2	8 x 160	8 x 81	8 x 28
3	2.4	12 x 128	8 x 98	8 x 34
4	2.8	12 x 170	8 x 129	8 x 45
5	3.2	12 x 214	8 x 162	8 x 56
6	3.5	12 x 256	8 x 195	8 x 67
8	4.1	12 x 342	8 x 260	12 x 59
10	4.6	12 x 426	8 x 325	12 x 74
12	5	12 x 512	12 x 260	12 x 89
16	5.8	12 x 682	12 x 348	12 x 118
25	7.2	12 x 1065	12 x 542	12 x 185

NOTE: Specials can be manufactured to customer specifications.
Single wire stranding can be manufactured to customer specs.

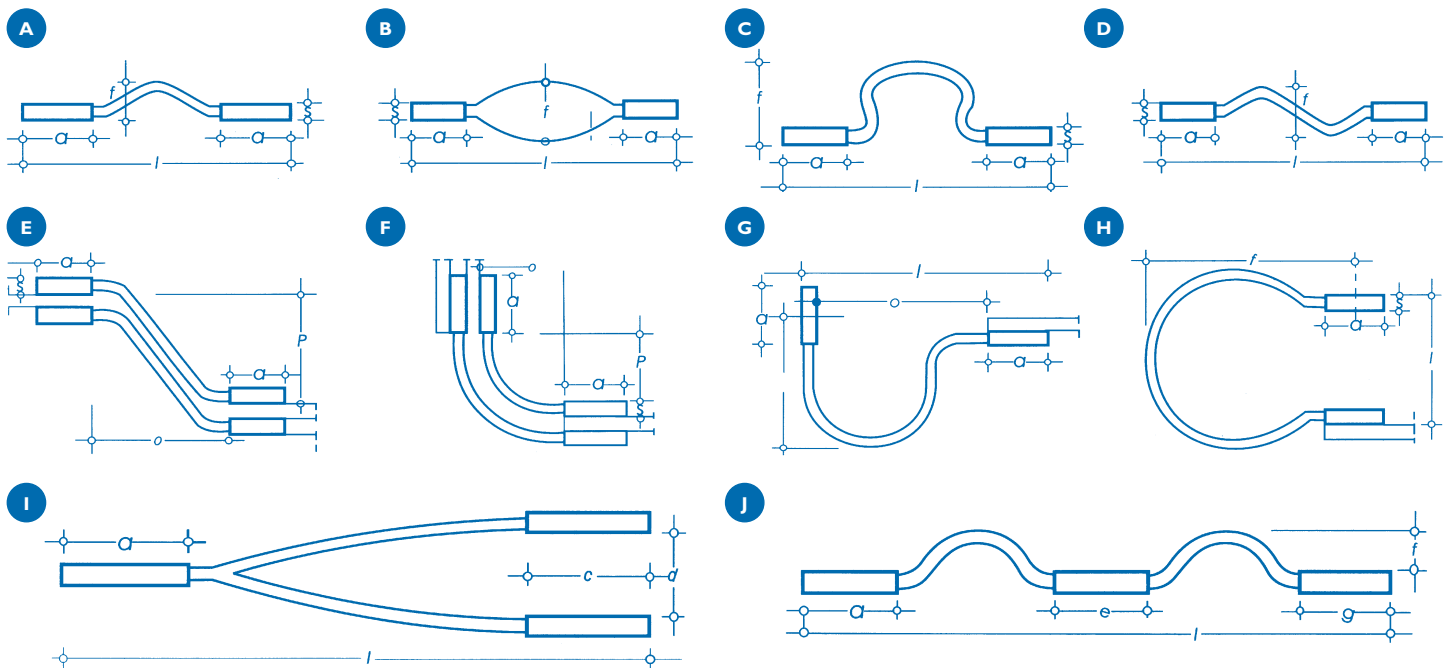
Copper/Aluminium Laminated Jumpers

Copper laminated flexible jumpers are manufactured by stacking several foils of electrolytic copper and applying high current under high pressure. This metal diffusion process enables the metal to melt and form a homogenous bond thereby giving a very negligible, almost nil, millivolt drop across the connector. This reduces temperature rise and increases the current carrying capacity of the jumper. No filler metal is used to join the layers together.

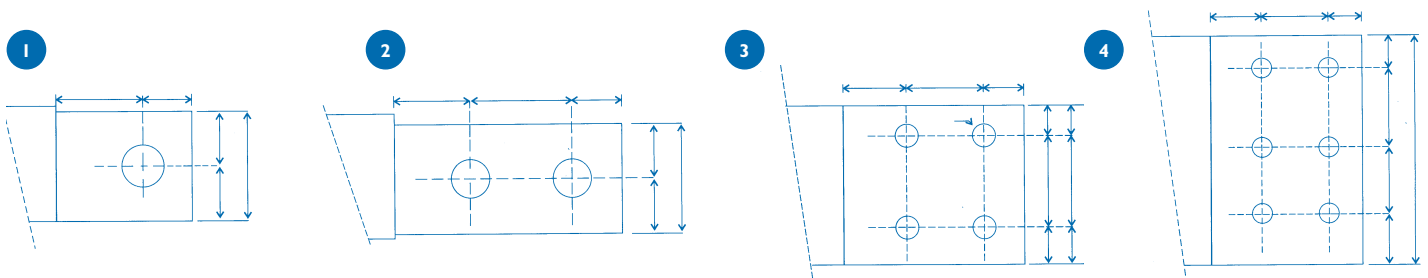
Advantages:

- They have a constant cross-section over the whole length.
- Possibilities to drill, saw, braze, mill and weld the contact areas.
- Substitute for a solid busbar, as the current carrying capacity is the same.
- Individually designed and manufactured to customer's requirement and application.
- Contact areas can be electro-tinned, silver or gold-plated for near perfect contact.
- Various shapes.

Various Shapes of Flexible Jumpers



Drill Pattern



Copper Flexible Connectors

FLAT BRAIDED COPPER CONNECTORS

Pressed either as single or as multiple tapes superimposed

- With tinned and bored ends
- With copper tubes or solderless terminals
- Shaped to its installation necessities
- Insulation from: PVC - jacket
- Shrink down plastic tubing or thermal protective insulation
- Supplied from 250 to 4000 Amps



Ordering Information:

When ordering flat flexible braids, please supply the following information:

Cross-sectional area of braid

Single wire diameter

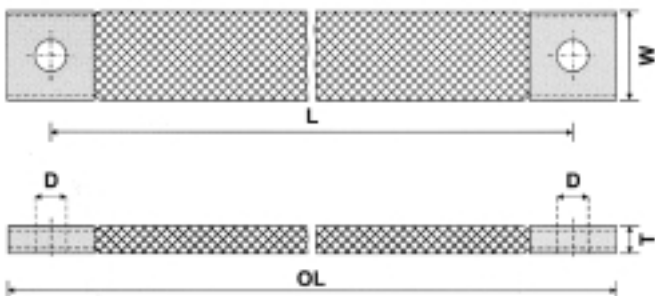
W – Width

T – Thickness

OL – Overall Length

L – Length Between Hole Centres

D – Hole Diameter



ROUND STRANDED COPPER CONNECTORS

Highly flexible

- Flat shaped pressed tubes
- Ends tinned or spot welded
- Terminals - Solder or Solderless
- Flag Terminals
- Insulation from: PVC
- Shrink down plastic tubing or thermal protective sleeving



Ordering Information:

When ordering round stranded copper connectors, please supply the following information:

Cross-sectional area of braid

Single wire diameter

W – Width

T – Thickness

OL – Overall Length

L – Length Between Hole Centres

D – Hole Diameter

DI – Diameter of Cable

